Insulin Action Times

There are three characteristics of insulin. These are:

Onset – the length of time before insulin reaches the bloodstream and begins lowering blood sugar.

Peak Time – The time during which insulin is at its maximum strength in terms of lowering blood sugar levels.

Duration – How long the insulin continues to lower blood sugar.

Storage and expiration dates also need to be taken into consideration.

Storage - Opened vials may be left at room temperature for 28-30 days after opening, or as indicated on package. Avoid exposure to extreme temperatures. Unopened vials should be stored in the refrigerator and are good until the expiration date on the package.
NOTE: Lantus must be refrigerated at all times, whether vials are opened or unopened.

Expiration Date - Make sure that the insulin that is supplied will be used before its expiration date.

Below you will find a table describing the insulin types with their comparative action times.

Types of Insulin by Comparative Action

Animal or Human	Insulin Type	Onset	Peak (Hours)	Usual Effective Duration (Hours)	Usual Maximum Duration (Hours)
Animal	regular	0.5 – 2 hours	3 – 4	4 – 6	6 – 8
	NPH	4 – 6 hours	8 – 14	16 – 20	20 – 24
Human	insulin aspart	5 – 10 minutes	1 – 3	3 – 5	4 – 6
	insulin lispro	< 15 minutes	.5 – 1.5	2 – 4	4 – 6
	regular	0.5 – 1 hour	2 – 3	3 – 6	6 – 10
	NPH	2 – 4 hours	4 – 10	10 – 16	14 – 18
	lente	3 – 4 hours	4 – 12	12 – 18	16 – 20
	ultralente	6 – 10 hours	---	18 – 20	20 – 24
	insulin glargine	1.1 hours	---	24	24

Please Note: Types of insulin are listed in more detail in the Reference Section at the back of this manual.

Adapted from: *Diabetes Forecast*, 2004 Resource Guide, Volume 57, Number 1, Pages RG 16-17. "Diabetes in Children A Resource Guide for School Personnel", 2002, Illinois Department of Human Services. http://www.iasn.org/diabetes.pdf.